

IN THE CLAIMS:

1.-14. (Cancelled).

15. (Currently Amended) A hearing device comprising:

a signal input device configured to receive an audio input signal and to convert said audio input signal into an electrical input signal;

a signal processor supplied with said input electrical signal that modifies said electrical input signal, including amplifying at least a portion of said electrical input signal with [[a]] an amplification gain, dependent on a hearing impairment to be corrected, to produce a processed signal;

a signal output device supplied with said processed signal that emits an acoustical output signal dependent thereon;

said signal input device, said signal processor and said signal output device forming a feedback loop that includes an acoustic feedback path from said signal output device to said signal input device such that said acoustic input signal is influenced by feedback via said feedback path, said feedback loop exhibiting a loop gain that changes dependent on the amplification gain provided by said signal processor;

a feedback reduction device connected between said signal input device and said signal output device configured to adjustably reduce, compensate or damp said feedback by using adjustably setting at least one adjustable parameter that influences said processed signal; and

an estimation unit connected between said signal input device and said feedback reduction device that estimates, from said electrical input signal, an estimated value of a system distance, said system distance

being defined as a distance of said loop gain to a predetermined stability limit of said feedback loop, said estimation unit supplying said estimated value to said feedback reduction device and said feedback reduction device being configured to generate adjustably set said at least one adjustable parameter dependent on said estimated value.

16. (Previously Presented) A hearing aid as claimed in claim 15 comprising a memory, accessible by said estimation unit, in which a model is stored that represents a typical frequency response of a speech signal, and wherein said estimation device is configured to detect a first signal portion and a second signal portion from said electrical input signal and to use said model to generate an estimated signal from said first signal portion that estimates said second signal portion, and to determine said estimated value from a difference of said estimated signal from said second signal portion detected from said electrical input signal.

17. (Previously Presented) A hearing aid as claimed in claim 16 wherein said estimation device extracts said first signal portion as a high-frequency portion of said electrical input signal and extracts said second signal portion as a low-frequency portion of said electrical input signal.

18. (Previously Presented) A hearing aid as claimed in claim 16 wherein said estimation device comprises a feature extractor that is configured to extract respective features from said first signal portion and said second signal portion for producing said estimated signal.

19. (Previously Presented) A hearing aid as claimed in claim 15 wherein said feedback reduction device comprises a feedback compensator.

20. (Previously Presented) A hearing aid as claimed in claim 15 wherein said feedback reduction device comprises an amplification/compression control circuit.

21. (Previously Presented) A hearing aid as claimed in claim 15 wherein said feedback reduction device comprises at least one oscillation detector and at least one narrow-band filter device configured to suppress oscillations, as said at least one parameter, dependent on said estimated value.

22. (Currently Amended) A method for alleviating feedback in a hearing device, comprising the steps of:

receiving an audio input signal with a signal input device and converting said

audio input signal into an electrical input signal;

processing electrical input signal in a signal processor, including amplifying at

least a portion of said electrical input signal with [[a]] an amplification

gain, dependent on a hearing impairment to be corrected, to produce a

processed signal;

emitting an acoustical output signal from an acoustic output device dependent

on said processed signal;

said signal input device, said signal processor and said signal output device

forming a feedback loop that includes an acoustic feedback path from

said signal output device to said signal input device such that said

acoustic input signal is influenced by feedback via said feedback path,

said feedback loop exhibiting a loop gain that changes dependent on

the amplification gain provided by said signal processor;

automatically adjustably reducing, compensating or damping said feedback using by adjustably setting at least one adjustable parameter that influences said processed signal; and

from said electrical input signal, automatically estimating an estimated value of a system distance, said system distance being defined as a distance of said loop gain to a predetermined stability limit of said feedback loop, and generating adjustably setting said at least one adjustable parameter dependent on said estimated value.

23. (Previously Presented) A method as claimed in claim 22 comprising electronically storing a model that represents a typical frequency response of a speech signal, and automatically detecting a first signal portion and a second signal portion from said electrical input signal and using said model to automatically generate an estimated signal from said first signal portion that estimates said second signal portion, and determining said estimated value from a difference of said estimated signal from said second signal portion detected from said electrical input signal.

24. (Previously Presented) A method as claimed in claim 23 comprising detecting said first and second signal portions by extracting said first signal portion as a high-frequency portion of said electrical input signal and extracting said second signal portion as a low-frequency portion of said electrical input signal.

25. (Previously Presented) A method as claimed in claim 23 comprising extracting respective features from said first signal portion and said second signal portion for producing said estimated signal.

26. (Previously Presented) A method as claimed in claim 22 comprising suppressing oscillations, as said at least one parameter, dependent on said estimated value.